

PROTOCOL FOR MONITORING THE  
WHITE GARDEN SNAIL ERADICATION PROJECT, FALL 1987

I. OBJECTIVE

To monitor the environmental levels of the pesticide used for the White Garden Snail Eradication Project and to verify the quantity of pesticides used at each site.

II. PERSONNEL

Monitoring of the application program will be conducted by the California Department of Food and Agriculture's (CDFA) Environmental Hazards Assessment Program (EHAP). This monitoring program will be under the overall supervision of Randy Segawa. Other key EHAP personnel are listed below:

**Bonnie Turner** - Supervision of all aspects of the White Garden Snail monitoring program.

**Nancy Miller** - Chemistry lab liaison.

**Madeline Ames** - Responsible for dissemination of monitoring results and liaison for other agencies, public and media.

ALL QUESTIONS CONCERNING THIS PROGRAM SHOULD BE DIRECTED TO MADELINE AMES AT 916 324-8916, ATSS 454-8916.

III. MONITORING PLAN

Monitoring will take place in San Diego County and will be initiated one day after the treatment program begins after the first significant rainfall. Soil samples will be collected and analyzed for methiocarb and metaldehyde. If any home gardens are treated, edible vegetation samples will be collected and analyzed for metaldehyde.

A. Soil

1. Experimental plot - One experimental plot will be treated with a known quantity of pesticide and 6 replicates will be collected immediately following application. Each replicate will consist of 25 cores collected randomly along one of 6 transects within the plot. The plot will be large enough in area (10 ft x 40 ft) to simulate the application procedures and amount of pesticides used in the eradication program sites. The results from this plot will be help to determine the amount of variability inherent in EHAP sampling methods. If results show an acceptable level of variability (standard error within 20-25% of the mean), the remainder of the monitoring program will be conducted similarly.

2. Eradication sites - Each week of the nine week eradication program, residences will be sampled from the following eradication sites:

<u>Treatment Site</u>	<u>No. of Treatments</u>	<u>Acreage Treated</u>	<u>No. of Residences Treated</u>	<u>No. of Residences Sampled during Study</u>
Palm City	3	8	44	3 (1 per treatment)
Lemon Grove*	3	8	20	3 (1 " " )
Lakeside	3	13	6	1
Hillcrest	1	5	21	2
Carleton Hills*	1	4	17	2
Encanto	1	95	156	15

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\* New sites this year.

Because some eradication sites will be treated more than once, there will be differences in the percentage of residences sampled at each site during the study. Approximately 26 residences will be sampled during the entire project

generating 104 samples for analysis. Approximately three residences will be sampled each week.

The residences will be chosen at random and will be sampled within 48 hours of pesticide treatment. Permission requests will be completed by the residents before sampling is begun. For each residence, the amount of pesticide applied and the size of area treated (in m<sup>2</sup>) will be noted on the chain of custody record since it is likely that the residence may be sampled only one time. A minimum of four (4) replicates will be taken at each residence. One replicate will consist of 25 subsample soil cores collected with an Oakfield sampler.

Background samples will consist of two (2) replicates collected from three treatment areas before the eradication program begins.

B. Vegetation

Treated garden areas will be sampled if feasible to determine if any soil-plant translocation occurs. A maximum of four (4) properties will be sampled for at least two plant types. Two replicates will be collected, if enough material is available, 7-10 days after application.

C. Water

If runoff should occur at any treatment site due to heavy rainfall, water samples will be collected if feasible.

**IV. SAMPLE STORAGE AND SECURITY**

All sampling media and containers will be prepared and prenumbered at the CDFA Meadowview Operations Center. Each container will be shipped to the sampling sites with an accompanying chain of custody (COC) record. The COC will be filled out by field personnel collecting the sample. This form will also be used to

record sampling data and the results of the chemical analysis. After collection, all samples will be immediately cooled with dry ice, and kept frozen until analysis.

#### V. CHEMICAL ANALYSIS AND QUALITY CONTROL

The chemical analysis will be performed by the Los Angeles County Environmental Toxicology Laboratory, and other laboratories as necessary. Samples will be analyzed for methiocarb and/or metaldehyde, with the following quality control measures:

##### A. Methods Development

1. Blank-Matrix Spikes - 5 replicate analyses

##### B. Continuing Quality Control

1. Solvent Blank Analyses - 1 per extraction set
2. Blank-Matrix Spikes - 1 per extraction set
3. Split Matrix Samples - 10% of actual samples

Contact EHAP for further explanation of analytical methods and quality control.

9/18/87